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(54) Title: EXHAUST-GAS PURIFICATION SYSTEM WITH PARTICULATE FILTER AND METHOD OF OPERATION THEREOF WITH IMPROVED REGENERATION OF THE PARTICULATE FILTER

(57) Abstract: The present invention describes an exhaust-gas purification system for an internal combustion engine made of an oxidation catalyst arranged close to the engine, a subsequent hydrocarbon adsorber and a particulate filter arranged downstream thereof and provided with another oxidation catalyst. The oxidation catalyst ensures that emission limits with respect to carbon monoxide and hydrocarbons are satisfied in normal driving mode. During operating states with exhaust-gas temperatures below about 200 °C, the oxidation catalyst can no longer oxidize carbon monoxide and hydrocarbons. Instead, the hydrocarbons are adsorbed by the hydrocarbon adsorber during these operating phases. In order to initiate the periodical regeneration of the particulate filter, the exhaustgas temperature of the internal combustion engine is raised by engine modifications. The increased exhaust-gas temperature leads to desorption of the previously stored hydrocarbons, which are then burned at the oxidation catalyst of the particulate filter, thereby supporting the regeneration of the particulate filter.

WO 2004/101963 A1